

REMARKS

Applicant thanks the Examiner for the thorough examination of the above-mentioned application and withdrawal of the rejections in the initial Office Action. The specification was objected to for informalities in Paragraph [0004], Paragraph [0010], and Paragraph [0021]. In addition, claims 1-3, 10-12, and 19-20 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Number 5,116,147 to Pajari, Sr. Claims 4-9, 13-18, and 22-25 were objected to as depending from a rejected claim.

Objections to the Specification

Applicant has amended Paragraphs [0004], [0010], and [0021] to address the informalities noted by the Examiner. Applicant notes that the second Paragraph [0010] has been renumbered as Paragraph [0010A].

Rejections under 35 U.S.C. § 102(b)

Applicant respectfully traverses the rejection that claim 1 is anticipated by Pajari, Sr. Applicant's invention as disclosed in the specification and drawings and as claimed is completely different from the anti-blockage bearing disclosed by Pajari, Sr. Applicant's invention is directed towards a drill rod driven by a vibrating drill and an adapter coupling that isolates a soil sampler barrel from the vibrating (up and down movement) of the drill rod so that the core barrel only receives a downward movement or displacement. (Abstract, Paragraphs [0002], [0003], [0006], and [0032]). Accordingly, the object of the invention is that the soil sampler barrel will not be subject to up and down vibratory motion in order to reduce friction/associated heat and will only be subject to be driven in a downward direction during the drilling process. (Paragraphs [0005], and [0006]).

On the other hand, Pajari, Sr. is directed to an anti-blockage bearing specifically designed to cause vibratory motion in the soil sampler barrel and further requires upward movement of the soil sampler barrel for the anti-blockage bearing to function. Pajari, Sr. specifically states that, "In the event of blockage, the core barrel will automatically be pushed upwards causing the thrust race of the lower housing member to bias the bearings against the thrust race of the upper housing member." (Abstract) (*Emphasis added*). Pajari, Sr. further states, "In the event of a blockage, the core barrel assembly is pushed upwards thereby bringing the bearing into engagement with the rotating upper thrust race." (Column 3, lines 10-13).

Furthermore, once the bearings are engaged, spherical bearings 3 ride on the indentations and ridges 9 on the inner surfaces of retaining race members 2 and 4, causing the soil sampler (core) barrel to vibrate to dislodge the blockage. Pajari, Sr. specifies that, “As the bearings encounter the ridges and indentations of the thrust races, a jarring vibration action is imparted to the core barrel, dislodging the blockage.” (Abstract) (*Emphasis added*). Further, Pajari, Sr. states that, “the resulting relative rotation produces vibrational force on the core barrel assembly.” (Column 2, lines 16-18) (*Emphasis added*). Pajari, Sr. adds that the vibrational force is in the downward direction relative to the longitudinal axis, which it is assumed that the Examiner was referring to when stating that, “the sampler barrel receives only downward motion from the drill rod” in paragraph 5 of the Office Action. However, nowhere does Pajari, Sr. claim that the core/sampler barrel is only subject to downward movement. Furthermore, Pajari, Sr. specifically states, as discussed above, that the rotation produces a vibrational force on the core barrel. This means it must also move upward. To vibrate means “to move back and forth or to and fro” (American Heritage Dictionary at www.bartleby.com) (Exhibit A). In other words, the fact that the core barrel in Pajari, Sr. is subject to a vibrational force means that it necessarily is moving both up and down. If it were only moving down, it would not be vibrating by definition. Pajari, Sr. emphasizes the force in the downward direction, as it is the downward force that provides the blows to dislodge the drill rod train. (Column 1, lines 12-15).

Furthermore, claim 1 is clear that the sampler barrel does not vibrate and requires that the adapter coupling includes an isolating mechanism to “isolate the sampler barrel from any upward vibratory movement of the drill rod so that the sampler barrel receives only downward motion from the drill rod.” In addition, this limitation in claim 1 is also clear that the vibratory movement is from the drill rod. There is absolutely no mention in Pajari, Sr. of the drill rod vibrating, and the only vibrations are caused from the contact of the anti-blockage bearing with the thrust races upon upward movement of the core/sampler barrel due to a blockage. Accordingly, claim 1 is not anticipated by Pajari, Sr. and should be allowable.

As claim 1 is not anticipated by Pajari, Sr. and is believed to be allowable, dependent claims 2-9 should also be allowable.

Applicant also respectfully traverses the rejection to claim 10. Claim 10 requires “an isolating mechanism to isolate said sampler barrel from any upward vibratory movement of said drill rod so that said sampler barrel receives only downward motion from said drill rod.” For the same reasons set forth above regarding claim 1, Pajari, Sr. does not anticipate this limitation in claim 1.

As claim 10 is not anticipated by Pajari, Sr. and is believed to be allowable, dependent claims 11-18 should also be allowable.

Applicant also respectfully traverses the rejection to claim 19. Claim 19 requires "isolating means for isolating movement of said sampler barrel from upward vibratory movement of said drill rod." For the same reasons set forth above regarding claim 1, Pajari, Sr. does not anticipate this limitation in claim 19.

As claim 19 is not anticipated by Pajari, Sr. and is believed to be allowable, dependent claims 20-25 should also be allowable.

An earnest attempt has been made to respond fully and completely to the Office Action of February 3, 2006. Applicant believes all of the pending claims 1-25 are now in condition for allowance, and respectfully request passage thereof.

If necessary to effect a timely response, please consider this paper a request for an extension of time, and charge any shortages in fees, or apply any overpayment credits, to Baker & Daniels LLP's Deposit Account No. 02-0387 (75971.22). However, please do not include the payment of issue fees.

Respectfully submitted,



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June 2, 2006

Date



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EXHIBIT A

Appl. No. 10/683,970

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The American Heritage® Dictionary of the English Language: Fourth Edition. 2000.

vibrate

SYLLABICATION: vi·brate

PRONUNCIATION:  vi'brāt'

VERB: Inflected forms: **vi·brat·ed**, **vi·brat·ing**, **vi·brates**

INTRANITIVE VERB: 1. To move back and forth or to and fro, especially rhythmically and rapidly. See synonyms at [swing](#). 2. To feel a quiver of emotion. 3. To shake or move with or as if with a slight quivering or trembling motion: *"Even as the film moved . . . to the more deadly fields of Vietnam, old hatreds vibrated in me"* (Loudon Wainwright). 4. To produce a sound; resonate. 5. To fluctuate or waver in making choices; vacillate.

TRANSITIVE VERB: 1. To cause to tremble or quiver. 2. To cause to move back and forth rapidly. 3. To produce (sound) by vibration.

ETYMOLOGY: Latin *vibrāre*, *vibrāt-*. See [weip-](#) in Appendix I.

OTHER FORMS: **vi'bra·tive**, **vi'bra·to'ry** (-brə-tôr'ē, -tôr'ē) —ADJECTIVE

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